

ABSTRACT OF THE DISCLOSURE

A sensor system for vehicle steering control comprising: a plurality of global navigation satellite sensor systems (GNSS) including receivers and antennas at a fixed spacing to determine a vehicle position, velocity and at least one of a heading angle, a pitch angle and a roll angle based on carrier phase corrected real time kinematic (RTK) position differences. The roll angle facilitates correction of the lateral motion induced position errors resultant from motion of the antennae as the vehicle moves based on an offset to ground and the roll angle. The system also includes a control system configured to receive the vehicle position, heading, and at least one of roll and pitch, and configured to generate a steering command to a vehicle steering system.